REMARKS

This responds to an Office Action mailed September 12, 2004. Claims 1-17 are pending. The Examiner's rejections of Claims 1-17 under §112 are believed resolved by the above-noted amendments.

The Examiner initially rejected Claims 1-6 and 9-11 under §103(a) given Patent No. 5,810,987 to Opitz in view of either Patent No. 4, 812,211 to Sakai or Patent No. 5,562,810 to Urquhart. The Examiner asserts that Opitz discloses all the steps as claimed (Fig. 1) including the steps of changing the position of small parts during the coating and baking process (Abstract and Column 4, lines 46-50) and the use of an electrically conductive swivel container. (Column 4, lines 26-34 and column 2, lines 36-55). The Examiner states that the difference between Opitz and the claims is a conveyor unit for mounting the container, but that Sakai and Urquhart disclose such a conveyor unit. Applicant respectfully disagrees.

Opitz discloses a very different E-coating and curing process and machine from that of the claimed invention. No single conductive support/container carries the parts through both the coating (7) and curing (3) sections in a continuous manner. A first conveyor belt (4) is used for the coating process, and a second conveyor belt (12) is used after the parts (6) slide through a rinsing device (2). (Column 6, lines 36-41, and Column 7, lines 45-55). A third conveyor belt (13) can be used for the baking process. (Column 6, lines 42-47). The first conveyer belt (4) passing through the electrodip bath is grounded. (Column 3, lines 46-50, and Column 8, lines 19-20). A single layer of parts (6) lay on the conductive portion of the conveyor belt (Claim 1, Abstract, Column 3, lines 16-25 and Column 7 lines 4-17). The parts are moved by sliding, shifting or intermittent jarring (Column 4, line 3-10, and Column 5, lines 7-10 and 44-46), such as via a vibrating belt. (Column 7, lines 4-9).

The first conveyor belt (4) should not pass into the baking oven along with the coated parts (6) since the baked paint can only be removed with great difficulty andeffort. (Column 3, lines 37-45). An electrically conductive support is used with an electrically insulating layer, preferably formed by the paint, except at desired points of contact for the parts. (Column 5, lines 28-63). The small parts or bulk goods (6) such as bolts, nuts, hinges and mountings (Column 1, line 46) are preferably thin and flat parts, such as washers. (Column 7, lines 4-8). The belts are preferably designed so that only small contact areas are possible with the small parts. (Column 6, lines 52-58). A tray or swivel drum is only used if the process is non-continuous. (Column 4, lines 26-29). The tray can only be used for coating and baking if it has surfaces that do not conduct electricity, cannot be wetted by the paint, and will retain their shape at the required baking temperatures. (Column 4, lines 40-50).

Sakai involves electrodeposition coating of parts. The parts are of relatively small size (Column 2, line 28) and are placed in a basket (B) that is swung during the electrodeposition process. (Column 7, lines 25-68, Column 13, lines 19-29, Ccolumn 14, lines 41-51 and Figures 4, 6 and 12). The basket (B) is made of a number of wires of expanded metal having a diamond shaped cross section. (Column 4, lines 3-8). There is no indication that the basket (B) is swung in transport to the baking ovens or during the baking process. Figure 4 indicates that the basket (B) is not swung until it is overturned to unload the baked parts into a chute (93) of a conveyor (92). (Column 11, lines 11-59, and Figure 9).

Urquhart discloses an automated electro-deposition line that is quite distinct from the claimed invention. In Urquhart, untreated metal parts (Column 3, line 57) are loaded into a barrel (56) and sent through a phosphating line (24). After the phosphating line (24), the parts are transferred to a second barrel (56') and sent through an electrodeposition/curing line (34).

Although the barrel (56') is rotated during the electro-deposition process (Column 8, lines 17-37), the parts are transferred to a second vibratory tray (160) before passing through the curing oven (40).

Claim 1, as amended, is not obvious given Opitz in view of Sakai or Urquhart. None of these references, either alone or in combination, disclose a method of electrocoating parts by placing them in a single electrically conductive container that is moved through both coating and curing sections in a continuous manner, while the container is moved (e.g., tumbled) within both coating and curing sections to separate the parts. The container is electrically conductive and is passes through both the coating and curing sections. The container is repeatedly used in the entire process. This is possible because the applicant has found that present day paints and technology allow a container such as a barrel to be operated for a substantial number of cycles before the coating reaches a level which interferes with the high quality coating of the parts within the barrel. (See page 3 of application, first full paragraph).

Opitz involves parts such as washers that lay in a single layer on a supporting surface. The support has an electricly insulative paint coating except at desired points of contact with the parts. The parts are moved by sliding, shifting, intermittent jarring or vibration, to ensure engagement with these desired points of contact while the parts remain in a single layer. The insulating paint layer is not baked on over the desired points of contact. A tray may only be used for a discontinuous process when its surfaces are non-conductive and cannot be wetted by the paint. Sakai does not discuss whether the basket (B) is coated with paint that is cured onto the basket. Sakai also does not discuss the type(s) of paint used in its process, whether the paint forms an electrically insulative layer on the basket, or if the basket can be reused without the expense of removing the paint coating. Urquhart discloses that the parts are transferred to a

second vibratory tray (160) before passing through the curing oven (40). Accordingly, Claim 1, as amended, is not obvious given the cited references. Claims 2-6 and 9-11 depend on Claim 1, as amended, and are thus patentably distinct over the cited references.

The Examiner initially rejected Claims 7, 8 and 12-17 as being obvious over Opitz as modified by Sakai or Urquhart and in further view of Patent No. 5,385,655 to Brent. The Examiner asserts that the difference between the asserted references as applied above and the instant claims are the types of parts and paints. The Examiner specifically cites Columns 5-8 of Brent, which pertain to various types and compositions of coating and paint.

Claims 7, 8 and 12-17 depend from Claim 1, as amended. Claim 1, as amended, is not obvious given Opitz in view of Sakai or Urquhart and in further view of Brent. None of these references, either alone or in combination, disclose a method of electrocoating parts by placing them in a single electrically conductive container that is moved through both the coating and curing sections in a continuous manner, and where the container is moved (e.g., tumbled) within both coating and curing sections to separate the parts. Thus, Claims 7, 8, and 12-17 are patentably distinct over the cited references.

In paragraph 7 of the Office Action, the Examiner objected to the Oath or Declaration because it did not contain all the signatures of the inventors. The enclosed substitute Declaration contains all the signatures and should resolve the Examiner's concern.

In Paragraph 8 of the Office Action, the Examiner indicated that the May 28, 2002 Information Disclosure Statement should be submitted in the form of a Declaration. A Declaration RE. Experimental Use is enclosed.

Respectfully submitted,

ANDRUS, SCEALES, STARKE & SAWALL, LLP

By: _____
Jeffrey S. Sokol
Reg. No. 35,686

Andrus, Sceales, Starke & Sawall, LLP
100 East Wisconsin Avenue, St. 1100
Milwaukee, WI 53202
(414) 271-7590
Attorney Docket No. 720-00023